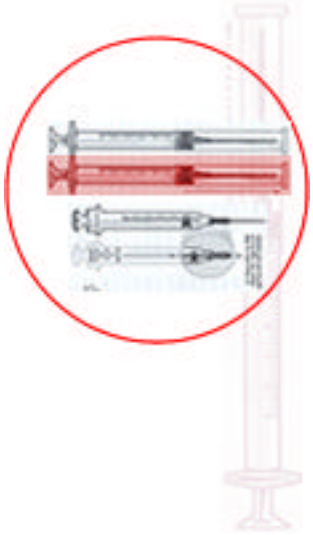
NIOSH recommends that health care facilities use safer medical devices to protect workers from needlestick and other sharps injuries. Since the passage of the Needlestick Safety and Prevention Act in 2000 and the subsequent revision of the OSHA Bloodborne Pathogen Standard, all health care facilities are required to use safer medical devices.

SAFER MEDICAL DEVICE IMPLEMENTATION IN HEALTH CARE FACILITIES

SHARING LESSONS LEARNED

NIOSH has asked a small number of health care facilities to share their experiences on how they implemented safer medical devices in their settings. These facilities have agreed to describe how each step was accomplished, and also to discuss the barriers they encountered and how they were resolved, and most importantly, lessons learned.



DISCLAIMER: Provision of this report by NIOSH does not constitute endorsement of the views expressed or recommendation for the use of any commercial product, commodity or service mentioned. The opinions and conclusions expressed are those of the authors and not necessarily those of NIOSH. More reports on Safer Medical Device Implementation in Health Care Settings can be found at http://www.cdc.gov/niosh/topics/bbp/safer/

Team Phase 3: Identify and Screen Safer Medical Devices

Facility Description:
Community, not-for-profit, Level III Trauma Center with 249 in-patient beds and 3 outpatient sites. The hospital is part of a large healthcare system. The facility employs approximately 1,100 employees, and approximately 600 physicians.

1. **Describe the process used to identify safer medical devices.**

The hospital adopted the safety needle devices selected by the system and the Needle Stick Reduction Committee participated in the education of the staff. These safety devices included needles and IV catheters. Once this education was complete, the Needle Stick Prevention Committee examined the data on the causes of needle and sharps injuries and realized a trend with a large number of needle sticks as a result of full or over-full sharps containers. A review of the data on needle stick injuries from full and over-full sharps containers revealed that the top of the containers may be a contributing factor. The second issue was not a trend, but an increase in needle and sharps injuries in Surgical Services. A review of available safety devices for the surgical area revealed a new safety scalpel with a retractable blade. Below is a list of the Safer Medical Devices selected for evaluation and how the device was selected.

Our hospital evaluated several products.

Safer Medical Device	How the device was selected for screening and evaluation
Sharps containers with counter balanced lids	A review of the causes of sticks revealed a trend with needle sticks from over full sharps containers. The vendor representative for our system was contacted to come to a meeting and bring available products for a show and tell.

Safety Scalpel	While reading a nursing journal, there was an advertisement for a new safety needle with a retractable needle into the barrel of the syringe after use. A representative of the company was contacted to come to a Needle Stick Reduction Committee meeting and bring the new syringe for evaluation. While presenting the product line, we discovered the company also had a safety scalpel, which had just been approved by the Food and Drug Administration (FDA).
Chemotherapy gloves	The Outpatient Chemotherapy/IV Therapy Suite was looking for devices to train patients to self administer IV medications at home. The Company representative had a line of chemotherapy gloves which were different than the ones currently in use. The chair person for the Needle Stick Reduction Committee was also the Director for the Outpatient Chemotherapy/IV Therapy Suite and involved in the search for home training products. The company representative was selling the product as being more resistant to punctures for needles. The Needle Stick Reduction Committee decided to pilot the item based on this information.
Safety Needles	While reading a nursing journal, there was an advertisement for a new safety needle with a retractable needle into the barrel of the syringe after use. The company was contacted for a representative of the company to come to a Needle Stick Reduction Committee and bring the new syringe for evaluation.

Safety Huber Needle	A flyer came in the mail concerning a Safety Huber Needle to the Needle Stick Reduction Chair person. Corporate purchasing was contacted about the device and the system decided to evaluate the device and our hospital volunteered to be a part of the evaluation process.

2. Describe where you obtained information about available devices and what this information included.

Information on available devices was obtained in several ways.

1. A review of the literature to look for information on best practices, the needle stick law, available safety devices, and how to get started.
   - Perry, J. "Needle Safety Laws on the Books in Fourteen States," *Advances in Exposure Prevention* 5.2 (2000):17.
   - Poulos, B. "One Giant Leap for Safety. Complying With the Needlestick Prevention Act," *Managing Infection Control,* Jan. 2002.
   - Ream, K.A. "Inside Washington: OSHA issues needlestick prevention initiatives," *Journal of Emergency Nursing* 26(1) February 2000, 23A-26A.
   - Steed, C. & Baker, M. "The safety needle SWITCHOVER." *Nursing Management* 33(6), 2002:36-38.

2. Internet search looking for information on best practices, the needle stick law, available safety devices, and how to get started.
   - CDC needlestick prevention- **www.cdc.gov/health/needlesticks.htm**
   - National Institute for Occupational Safety and Health (NIOSH)- **www.cdc.gov/niosh/2000-108.html**
   - ANA's website- **www.needlestick.org**
   - Occupational Safety and Health Administration (OSHA)- **www.OSHA.gov**
   - National Alliance for the Primary Prevention of Sharps Injuries-

www.nappsi.org

- Texas Hospital Association Weekly Newsletter Update- OSHA Revises Needlestick Rule, February 5, 2001- **www.thaonline.org**
- Infection Control- **www.infectioncontroltoday.com**
- Nurses.com- **www2.nurses.com**
- Nursing World- **www.nursingworld.org**

3. Materials Management Director for information on what devices were in the system already and who the vendor representatives were.
4. Information from staff on devices that they had seen at other facilities or at conferences that might be useful as we were evaluating safety devices.

The information included varied depending on the source. A review of the literature revealed:

1. The Internet contained some good information on the Needlestick Safety and Prevention Act, OSHA regulations, guidelines by the CDC, safety devices, and general information about needle and sharps safety.
2. The Materials Management Director was a good source of information on the manufacturers of current devices used in the hospital and the name of a contact person of these companies.
3. Staff provided a few pages from a magazine with the name of two (2) safety syringes coming available.

3. List the factors or criteria used in Step 1 in deciding which safer medical devices should be screened for possible pilot testing.

The committee considered several things when looking at which safer medical devices to screen for the pilot.

1. Did the system have a contract with the prospective vendor for group purchasing?
2. Could the company meet the supply demands?
3. Was the device compatible with other devices already in use in the hospital?
4. If selected, the vendor would provide staff education, to include weekends and nights.

5. The committee members had to agree, by a majority vote, that there was a benefit to the hospital to evaluate the product.
6. Were we already using a similar safety device, and if so, what could the new product provide that we were not already getting from our current device?

4. List the factors or criteria used in Step 2 in describing which safer devices to use in a device evaluation.

Safer Medical Device	Factors or Criteria used in describing which safer devices to evaluate.
Sharps containers with counter balanced lids	The trend of needle stick from over full sharps containers had to be addressed quickly. The system already had a relationship with the company. A review of the Internet and the literature for other sharps containers outside of our vendor contracts, did not reveal a better product than the one offered by our vendor.
Safety Scalpel	The second trend noted by our review of trends revealed an increase in sharps injuries in the Surgical Services. We were looking for ideas on what to do. A company representative we called for another reason brought a scalpel that had just been approved by the FDA with her. In evaluating it, the surgery representative on the committee said she felt sure the surgeons would not use it because the plastic handles made the scalpel so light weight. The surgeons preferred a heavier weight handle. The Emergency Center committee representative thought the scalpel would be a good fit for the type of patients seen in the Emergency Center, so they agreed to pilot it.

Chemotherapy gloves	The Chemotherapy glove pilot was just by accident, not by design. The product was identified when looking at an entirely different product. The vendor was asked to bring some equipment to the Outpatient Chemotherapy/ IV Therapy Suite. He brought the information on the gloves for the nurse to look at. The gloves were taken to the committee for consideration for a pilot project.
Safety Needles	While reading a nursing journal, there was an advertisement for a new safety needle with a retractable needle into the barrel of the syringe after use. The device was different than the safety needle the hospital currently uses, which has a protective sheath which must be activated by the person using it after it is used. The new product had a passive motion, where the needle retracted into the barrel automatically after use. The committee was excited to evaluate the product. The staff looked at the device and liked it very much. Our contract with our vendor was a system wide initiative and getting this product approved and implemented over our current product was not going to be an easy task, so we opted not to pilot this product. We did refer it to our System Safety Officer and to the Infection control System Physician.

Safety Huber Needle	A flyer came in the mail concerning a Safety Huber Needle to the Needle Stick Reduction Chair person. Corporate purchasing was contacted about the device and the system decided to evaluate the device and our hospital volunteered to be a part of the evaluation process. We offered to pilot the company's safety Huber Needle. Corporate purchasing gave us the name of a company Representative of the device we were going to be piloting. The Needle stick reduction Committee selected the areas where the product would be piloted and feedback was provided to Corporate Purchasing.

General Factors that were considered:

1. Once the committee decided a safer device needed to be considered for a product evaluation, the Materials Management Director made contact with the company for the name of a contact person.
2. The company representative had to be willing to come to a Needle Stick Reduction Committee meeting and demonstrate the device, talk about the nuances of the devices, and allow the committee members to conduct a hands on product evaluation.
3. The committee members had to agree, by a majority vote, that the device under consideration offered improved options over what was already in use.
4. Passive action preferred over active action, when possible.
5. A specific location for a pilot had to be established, and the Department Director had to agree to support the pilot.

5. Lessons learned in Steps 1 & 2.- Identifying and screening safer products.

1. The computer is an invaluable wealth of information for available resources. Evaluate the information obtained on the Internet for author bias and disclaimers.

2. Do not be afraid to go outside of vendor purchasing agreements to look for products to evaluate.
3. Ask the vendor for what you need to support the staff, time, supplies, education, and do not settle or be afraid to walk away if needs are not met.
4. Communicate with the Department Directors about pilot projects that are going on in their area and the role they are expected to play in the pilot project.
5. Provide the staff with an evaluation tool, so that the feedback obtained is consistent.

6. Improving the process.

When you are one hospital in a large system**,** and decisions are made at the system level about safety devices, include a system/ corporate representative on the committee. This can assist in getting safety products throughout the system and not just one hospital**.**

Before implementing any changes, thoroughly evaluate available products to see if what you currently have is meeting your needs. Pilot projects take a lot of time and energy, so careful evaluate the need and benefit of the product during the evaluation process. In looking back, I might have developed a form for committee members to perform this evaluation

7. Advice to similar facilities.

Have Senior Administrative support in your hospital/organization before starting pilot projects.

Keep needle safety and sharps injury prevention awareness high on the radar screen by sending staff e-mails, posting fliers, and sending out newsletters. This is a good way to keep staff aware of successes and opportunities for improvement.

Include staff level nurses in the decisions and obtain feedback from staff.

Have vendors schedule appointments and announce their arrival through the Materials Management Department.

8. Other relevant information about the process or problems encountered.

When working in a multi-hospital system, try and obtain cooperation and support from the system, not just at the hospital level.

9. Estimated Time to complete Phase 3:

Explanation of Time
Initial review of available products
Internet search
Literature review
Committee meetings
Meeting with Occupational Health Nurse to evaluate for trends
Meeting with Director of Materials Management on available products, vendors and company contact information
Committee product evaluation
Typing, minutes, sign in sheets, copying, e-mailing, distributing

Type of Staff	Time in hours
Administrative	19
Management	40.5
Staff	28
Total	87.5

10. References:

ANA., Applauds House Passage of Needlestick Prevention Legislation **www.nursingworld.org**.

Poulos, B. “One Giant Leap for safety: Complying With the Needlestick Prevention Act”, Managing Infection Control, Jan, 2002

www.nappsi.org/needlestick.shtml , Needlestick Information

www.advisory.com , Protecting Staff: Researchers identify catalysts of sharps injuries.

www.cdc.gov/niosh/healthpg.html

www.cdcnpin.org/scripts/utilities

11. **One Attachment:**

Product evaluation form.

NEW PRODUCT EVALAUTION

Product Name:_____ **Manufacturer:**_____

Date:_____ **Cost Center Reporting:**_____

FEATURES **Rate the product**	**Superior**	**Acceptable**	**Unacceptable**	**Comments**
Ease of Use				
Durability				
Effectiveness				
Overall Performance				
Packaging				
Instruction on use were adequate				
Product easily identified				
Patient/ Customer Feedback				

Other Comments: (Please explain all unacceptable scores)

_____

_____

_____

Form completed by: _____ _____

Name/ Title **Date**